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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,145	07/16/2003	Craig A. Moller	0013-P02239US2	4215
110	7590	06/02/2004	EXAMINER	
DANN, DORFMAN, HERRELL & SKILLMAN 1601 MARKET STREET SUITE 2400 PHILADELPHIA, PA 19103-2307			FUQUA, SHAWNTINA T	
		ART UNIT	PAPER NUMBER	
			3742	

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application N .	Applicant(s)
	10/621,145	MOLLER, CRAIG A.
	Examiner Shawntina T. Fuqua	Art Unit 3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 16 July 2003.  
 2a) This action is **FINAL**.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-28 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) See Continuation Sheet is/are rejected.  
 7) Claim(s) 4, 7, 11, 15/4, 15/7, 15/11, 16/15/4, 16/15/7, 16/15/11, 18, 19/18, 21, 25 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 16 July 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>9/22/03</u> .	6) <input type="checkbox"/> Other: _____.

Continuation of Disposition of Claims: Claims rejected are 1-3, 5-6, 8-10, 12-14, 15/1-3, 15/5-6, 15/8-10, 15/12-14, 16/15/1-3, 16/15/5-6, 16/15/8-10, 16/15/12-14, 17, 19/17, 20, 22-24, 26-28.

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because line 1 contains the implied phrase "is disclosed". Correction is required. See MPEP § 608.01(b).

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 6, 8, 15/1-3, 15/6, 15/8, 16/15/1-3, 16/15/6, 16/15/8, 17, 19/17, 20, and 22

are rejected under 35 U.S.C. 102(b) as being anticipated by Pfau et al (US4610435).

Pfau et al discloses a heat treating furnace for providing directional cooling of a workpiece load comprising a hot zone (2) having side walls and end walls (Figure 1) wherein the walls have first and second slots (9, 9') formed along the length, means for injecting (21, 21') a

cooling gas into the hot zone, and means for directing the cooling gas to exit the hot zone through the slots (column 6, lines 16-19), first slot is opposite second slot (Figure 1), a plenum (19, 19') formed around the hot zone (Figure 1) wherein the plenum having an end wall in parallel to the end wall of the hot zone and has first and second openings in proximate relation to the first and second slots (Figure 1), a first and second dampers (18, 20) in proximate relation to first and second openings for regulating the flow of cooling gas (column 6, lines 10-12), a means for opening and closing dampers (18, 20), a third slot formed through hot zone (column 6, lines 20-21), a blower having an exhaust fluid in communication with the hot zone and an intake fluid in communication with the hot zone for receiving the cooling gas therefrom whereby the cooling gas can be recirculated through the hot zone and a heat exchanger between the hot zone and the blower intake whereby heat can be removed from the cooling gas (column 4, line 48-65; column 6, lines 21-25), and a plurality of nozzles (21, 21').

*Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
6. Claims 5, 9-10, 12-14, 15/5, 15/9-10, 15/12-14, 16/15/5, 16/15/9-10, 16/15/12-14, 23-24, and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfau et al in view of Even (US2734738).

Pfau et al discloses all of the recited subject matter except a nozzle with a flap valve that permits forced flow of the cooling gas into the hot zone, but impedes unforced flow of a heat treating gas out of the hot zone, a fourth slot in hot zone, and third and fourth openings and dampers in plenum. Even discloses a nozzle with a flap valve that permits forced flow of the cooling gas into the hot zone, but impedes unforced flow of a heat treating gas out of the hot zone (column 2, line 64-column 4, line 3, 27-30, 40-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the flap valve of Even in the furnace of Pfau et al because, a flap valve allows the heated zone temperature to be controlled more accurately.

While neither Pfau et al nor Even discloses a fourth slot in the hot zone, and third and fourth openings and dampers in the plenum, a fourth slot in the hot zone and adding third and fourth openings and dampers in the plenum are a mere duplication of essential working parts and involves only routine skill in the art. Pfau et al implies this by disclosing that an additional/third opening can be provided in the hot zone (column 6, lines 20-21).

***Allowable Subject Matter***

7. Claims 4, 7, 11, 15/4, 15/7, 15/11, 16/15/4, 16/15/7, 16/15/11, 18, 19/18, 21, and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawntina T. Fuqua whose telephone number is (703) 305-2581. The examiner can normally be reached on Monday-Friday 8-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (703) 305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

stf  
May 29, 2004

  
Shawntina Fuqua  
Patent Examiner  
Art Unit 3742